

Night terror

Night terror, also known as **sleep terror**, is a sleep disorder, causing feelings of terror or dread, and typically occurs during the first hours of stage 3-4 non-rapid eye movement (NREM) sleep.^[1] Sleep terrors begin in children between the ages of 3 and 12, and usually stop during adolescence. In adults, they most commonly occur between the ages of 20 to 30. Though the frequency and severity vary between individuals, the episodes can occur in intervals of days or weeks, but can also occur over consecutive nights or multiple times in one night.^[2] This has created a situation in which any type of nocturnal attack or nightmare may be confused with and reported as a night terror.^[3]

Night terror	
Synonyms	Sleep terror, pavor nocturnus
Specialty	Psychiatry

Night terrors tend to happen during periods of arousal from delta sleep, also known as slow-wave sleep.^[4]^[3] Delta sleep occurs most often during the first half of a sleep cycle, which indicates that people with more delta sleep activity are more prone to night terrors. However, they can also occur during daytime naps.^[2] Night terrors can often be mistaken for confusional arousal.^[4]

While nightmares (bad dreams that cause feelings of horror or fear) are relatively common during childhood, night terrors occur less frequently.^[5] Sleep terror episodes are estimated to occur in 1–6% of children, and in less than 1% of adults.^[6] Night terrors have been known since ancient times, although it was impossible to differentiate them from nightmares until rapid eye movement was discovered.^[3]

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Signs and symptoms

The universal feature of night terrors is inconsolability, very similar to that of a panic attack.^[7] During night terror bouts, people are usually described as "bolting upright" with their eyes wide open and a look of fear and panic on their faces. They will often scream. Furthermore, they will usually sweat, exhibit rapid breathing, and have a rapid heart rate (autonomic signs). In some cases, individuals are likely to have even more elaborate motor activity, such as a thrashing of limbs—which may include punching, swinging, or fleeing motions. There is a sense that the individuals are trying to protect themselves and/or escape from a possible threat of bodily injury.^[2] Although people may seem to be awake during a night terror, they will appear confused, be inconsolable and/or unresponsive to attempts to communicate with them, and may not recognize others familiar to them. Occasionally, when a person with a night

terror is awakened, they will lash out at the one awakening them, which can be dangerous to that individual. Most people who experience this do not remember the incident the next day.^[4] Sleepwalking is also common during night terror bouts,^{[3][8]} as sleepwalking and night terrors are different manifestations of the same parasomnia.^[3]

During lab tests, subjects are known to have very high voltages of electroencephalography (EEG) delta activity, an increase in muscle tone, and a doubled increase in heart rate, if not more. Brain activities during a typical episode show theta and alpha activity when using an EEG. It is also common to see abrupt arousal from NREM sleep that does not progress into a full episode of a night terror. These episodes can include tachycardia. Night terrors are also associated with intense autonomic discharge of tachypnea, flushing, diaphoresis, and mydriasis^[7] – that is, unconscious or involuntary rapid breathing, reddening of the skin, profuse sweating, and dilation of the pupils.

In children with night terrors, there is no increased occurrence of psychiatric diagnoses.^[9] However, in adults who suffer from night terrors there is a close association with psychopathology or mental disorders. There may be an increased occurrence of night terrors—particularly among those suffering or having suffered from post-traumatic stress disorder (PTSD) and generalized anxiety disorder (GAD). It is also likely that some personality disorders may occur in individuals with night terrors, such as dependent, schizoid, and borderline personality disorders.^[9] There have been some symptoms of depression and anxiety that have increased in individuals that have suffered from frequent night terrors. Low blood sugar is associated with both pediatric and adult night terrors.^{[2][10]} A study of adults with thalamic lesions of the brain and brainstem have been occasionally associated with night terrors.^[11] Night terrors are closely linked to sleepwalking and frontal lobe epilepsy.^[12]

Children

Night terrors typically occur in children between the ages of three and twelve years, with a peak onset in children aged three and a half years old.^[13] An estimated 1–6% of children experience night terrors. Boys and girls of all ethnic backgrounds are affected equally.^[13] In children younger than three and a half years old, peak frequency of night terrors is at least one episode per week. Among older children, peak frequency of night terrors is one or two episodes per month. The children will most likely have no recollection of the episode the next day. Pediatric evaluation may be sought to exclude the possibility that the night terrors are caused by seizure disorders or breathing problems.^[13] Most children will outgrow sleep terrors.^[14]

Adults

Night terrors in adults have been reported in all age ranges.^[15] Though the symptoms of night terrors in adolescents and adults are similar, the cause, prognosis and treatment are qualitatively different. These night terrors can occur each night if the sufferer does not eat a proper diet, get the appropriate amount or quality of sleep (e.g. sleep apnea), is enduring stressful events, or if he or she remains untreated. Adult night terrors are much less common, and often respond to treatments to rectify causes of poor quality or quantity of sleep. Night terrors are classified as a mental and behavioral disorder in the ICD.^[16] A study done about night terrors in adults showed that other psychiatric symptoms were prevalent in most patients experiencing night terrors hinting at the comorbidity of the two.^[7] There is some evidence of a link between night terrors and hypoglycemia.^[17]

When a night terror happens, it is typical for a person to wake up screaming and kicking and to be able to recognize what he or she is saying. The person may even run out of the house (more common among adults) which can then lead to violent actions.^[18] It has been found that some adults who have been on a long-term intrathecal clonidine therapy show side effects of night terrors, such as feelings of terror early in the sleep cycle.^[19] This is due to the possible alteration of cervical/brain clonidine concentration.^[15] In adults, night terrors can be symptomatic of neurological disease and can be further investigated through an MRI procedure.^[20]

Causes

There is some evidence that a predisposition to night terrors and other parasomnias may be congenital. Individuals frequently report that past family members have had either episodes of sleep terrors or sleepwalking. In some studies, a ten-fold increase in the prevalence of night terrors in first-degree biological relatives has been observed—however, the exact link to inheritance is not known.^[2] Familial aggregation has been found suggesting that there is an autosomal mode of inheritance.^[7] In addition, some laboratory findings suggest that sleep deprivation and having a fever can increase the likelihood of a night terror episode occurring.^[6] Other contributing factors include nocturnal asthma, gastroesophageal reflux, and central nervous system medications.^[7] Special consideration must be used when the subject suffers from narcolepsy, as there may be a link. There have been no findings that show a cultural difference between manifestations of night terrors, though it is thought that the significance and cause of night terrors differ within cultures. Evidence suggests that nightmares are more common among women than men.^[21]

Also, older children and adults provide highly detailed and descriptive images associated with their sleep terrors compared to younger children, who either cannot recall or only vaguely remember. Sleep terrors in children are also more likely to occur in males than females; in adults, the ratio between sexes is equal.^[2] A longitudinal study examined twins, both identical and fraternal, and found that a significantly higher concordance rate of night terror was found in identical twins than in fraternal.^{[7][22]}

Though the symptoms of night terrors in adolescents and adults are similar, their causes, prognoses, and treatments are qualitatively different. There is some evidence that suggests that night terrors can occur if the sufferer does not eat a proper diet, does not get the appropriate amount or quality of sleep (e.g., because of sleep apnea), or is enduring stressful events. Adults who have experienced sexual abuse are more likely to receive a diagnosis of sleep disorders, including night terrors.^[23] Overall, though, adult night terrors are much less common and often respond best to treatments that rectify causes of poor quality or quantity of sleep.

Diagnosis

The *DSM-IV-TR* diagnostic criteria for sleep terror disorder requires:^[6]

- recurrent periods where the individual abruptly wakes from sleeping with a scream
- the individual experiences intense fear and symptoms of autonomic arousal, such as increased heart rate, heavy breathing, and increased perspiration
- the individual cannot be soothed or comforted during the episode
- the individual is unable to remember details of the dream or details of the episode
- the occurrence of the sleep terror episode causes *clinically significant* distress or impairment in the individual's functioning
- the disturbance is not due to the effects of a substance or general medical condition

Treatment

In most children, night terrors eventually subside and do not need to be treated. It may be helpful to reassure the child and their family that they will outgrow this disorder.^[24]

Psychotherapy or counseling can be helpful in many cases. There is some evidence to suggest that night terrors can result from lack of sleep or poor sleeping habits. In these cases, it can be helpful to improve the amount and quality of sleep which the child is getting.^[24] If this is not enough, benzodiazepines (such as diazepam) or tricyclic antidepressants may be used; however, medication is only recommended in extreme cases.^[25]


Research

A small study of paroxetine found some benefit.^[26] Another small trial found benefit with L -5-hydroxytryptophan (L -5-HTP).^[27]

See also

- Ephialtes (illness)
- Sleep paralysis
- Horror and terror

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External links

- Night Terror Resource Center (http://www.nightterrors.org/)
- National Institutes of Health, Medline Plus: Night Terrors (http://www.nlm.nih.gov/medlineplus/ency/article/000809.htm)
- National Library of Medicine - Medical Subject Headings: Night Terrors (http://www.nlm.nih.gov/cgi/mesh/2005/MB_cgi?index=18870)

Classification	ICD-10: V · T · D F51.4 (http://apps.who.int/classification/s/icd10/browse/2016/en#/F51.4) · ICD-9-CM: 307.46 (http://www.icd9data.com/getICD9Code.aspx?icd9=307.46) · MeSH: D020184 (https://www.nlm.nih.gov/cgi/mesh/2015/MB_cgi?field=uid&term=D020184)
External resources	MedlinePlus: 000809 (https://www.nlm.nih.gov/medli

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